

KEY CITY COAL GAS

(Dubuque, Iowa)

GENERAL DESCRIPTION

The Key City site is located in downtown Dubuque, in the NE 1/4 of the SE 1/4 of Section 25, T89N, R2E, Dubuque County, Iowa. The 1/2-acre site is on the north side of Dodge Street (U.S. Highway 20) between Bluff Street and Bissel Lane. The site is owned by Midwest Gas, a division of Midwest Power Systems, Inc. The department approved the transfer of ownership from Murphy Trust to Midwest Gas in January 1995. Midwest Gas has been the primary responsible party for the cleanup of the site. The site was entered on the Registry in January 1995.

SITE CLASSIFICATION

In 2005 this site is being reclassified to “d” Site Properly Closed, Requires Continued Management.

TYPE AND QUANTITY OF HAZARDOUS WASTE

A manufactured gas plant operated at the site from the 1870 until 1937. The Key City Gas Company owned and operated the site from 1880 until it closed in 1937. During its operation, coal tar sludges and other associated gasification wastes were generated. A 60-foot diameter brick-constructed gasometer was located at the southeast corner of the site near the intersection of Highway 20 and Bissell Lane. The highest concentrations of coal tar constituents were located within this structure. Some coal manufacturing was conducted on the west side of Bluff Street (Pixler property). The Pixler property was also the location of gas station, which had leaking underground storage tanks.

The site was sold to the Murphy family in 1941 and conveyed to the Murphy Trust in 1948. AMOCO Oil Company leased the site from Murphy Trust and built a gas station at the site in 1950. This gas station operated at the site from 1950 until it closed in 1991. AMOCO operated the gas station until they sold it to Mulgrew Oil Company in 1983. Mulgrew operated the gas station until it closed in 1991. During the operation of the gas station, petroleum hydrocarbons were released at the site from leaking underground storage tanks.

The IDOT discovered the first indication of site contamination in March 1987 while drilling for a highway improvement project. Gasoline-contaminated soil was discovered at the intersection of Dodge and Bluff Street and at the Amoco Station. In 1997 the Iowa Department of Transportation (IDOT) finished construction of a new Highway 20 to cover the southern part of the site. The construction schedule was delayed until the completion of removal actions at the site.

SUMMARY OF PUBLIC HEALTH AND ENVIRONMENTAL CONCERNS

The site is located within Dubuque. The city's municipal water wells are located about 2.6 miles northeast of the site. The main channel of the Mississippi River is about 2,300 feet east and Dubuque Harbor is about 1,500 feet northeast of the site. The nearest area of the Upper Mississippi River Wildlife and Fish Refuge is located 4,000 feet downstream of the site.

The on-site soils were contaminated with total PAHs (coal tar residuals) as high 47,000 ppm within the gasometer and 8,000 ppm outside the structure. Much of this contaminated soil has been excavated and replaced with clean fill during the 1993 and 1994 removal action. Hot spots still remain at the southwest corner of Highway 20 and Bluff Street and on the west side of Bluff Street (Pixler property).

The groundwater is contaminated with PAH and petroleum hydrocarbon compounds. This includes benzene as high as 8,600 ug/L and total PAHs as high as 7,771 ug/L.

SUMMARY OF ASSESSMENT, MONITORING OR REMEDIAL ACTIONS

The state is the lead agency for the site.

The EPA conducted a two-phase investigation at the site in October 1987 and March 1988. During the investigations coal tar constituents, petroleum hydrocarbons, and inorganic compounds were found in soil and groundwater samples. Other limited investigations were conducted by contractors for Mulgrew (September 1989) and for Midwest Gas (July 1990). These investigations documented the release of coal tar residuals and petroleum hydrocarbons to the soil and groundwater at the site. The department determined the release presented a significant threat to public health and the environment that required remedial action.

In February 1992 the department entered a Consent Order with Midwest Gas. The order required both removal action and a Remedial Investigation/Feasibility Study (RI/FS) at the site. Midwest Gas has negotiated a settlement with AMOCO, which requires AMOCO to install and operate the groundwater treatment/product recovery system at the site.

The Phase I Removal work plan was approved by the department in December 1992. This removal action was initiated in March 1993 to address coal tar source materials encountered in the interior of the gasometer. A total of 4,865 tons of material was removed for off-site incineration at the NEAL power station located near Sioux City, Iowa. In December 1993, five underground storage tanks were excavated and removed. These tanks were related to the operation of the AMOCO gas station.

The Phase II Removal work plan was approved by the department in April 1994. This removal action was initiated in May 1994 to address coal tar source materials encountered outside of the gasometer. This removal action was completed in July 1994. A total of 3,584 tons of material was removed for off-site incineration at the NEAL power station. All building associated with the former manufactured gas plant have been demolished and removed.

An additional removal action was conducted along the west edge of Bluff Street (Pixler property). A small pocket of waste (less than 25 cubic yards) was present at a depth of approximately 20 feet. The source removal was completed in 1997. A recovery well was installed and started operating in 1997.

A Remedial Investigation (RI) work plan to collect data needed to complete the definition of the groundwater contamination at the site was submitted to the department in February 1995. Work on the RI activity has been limited by the Highway 20 construction schedule. An air sparging system is under construction and study for groundwater treatment.

BP Amoco will submit a work plan in December 2002 to address the free phase petroleum products still in place and take over the air sparging system. The Iowa DOT is completing a RBCA Tier 2 to see if their portion of the project (Pixler) can be closed out. MidAmerican Energy is performing semiannual monitoring at the site.

2003: Work plan approved for the free phase petroleum investigation. Free Phase Petroleum was found at the site. BP Amoco was required to address the petroleum under the underground storage tank rule 567-IAC-135. The Free Product Recovery Assessment report was rejected by the DNR and BP/Amoco was required to resubmit it.

2005: MidAmerican Energy Company has received a 'no further action' statement for their portion of the site and Consent Order No. 92-HC-06 has been closed. The Iowa Department of Transportation as completed all remedial activities and a 'no further action' statement has been issued for the Pixler portion of the site. Free product recovery assessment report was rewritten to address IDNR comments and concerns for the BP (Amoco) portion of the site. Free phase gasoline was bailed to a point where it has been below 0.01 feet for the past 14 consecutive months. If conditions stay the same BP (Amoco) will receive a 'no further action' statement in the summer of 2006.

2007: All remedial and monitoring activities have been discontinued at the Key City Coal Gas Site and all RPs have received 'no further action' letters (MEC, Iowa DOT, and BP). All monitoring wells have been properly abandoned and no further environmental work is anticipated at this time.

